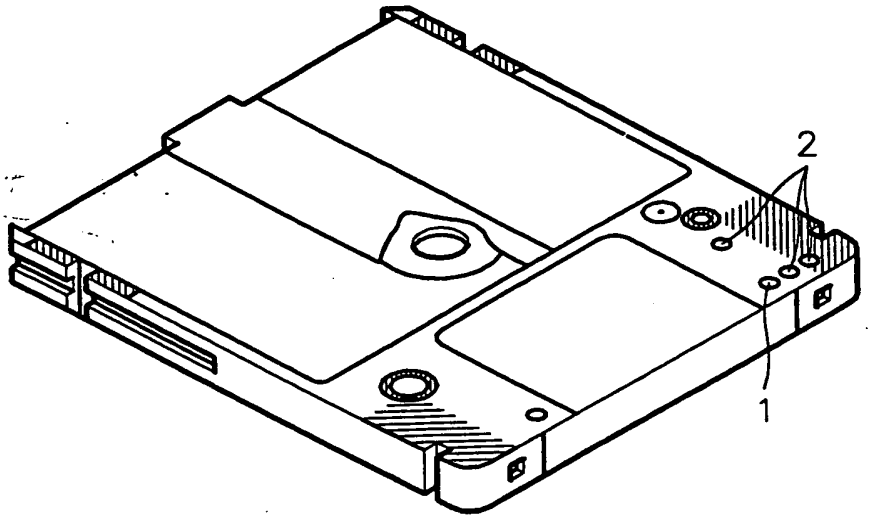
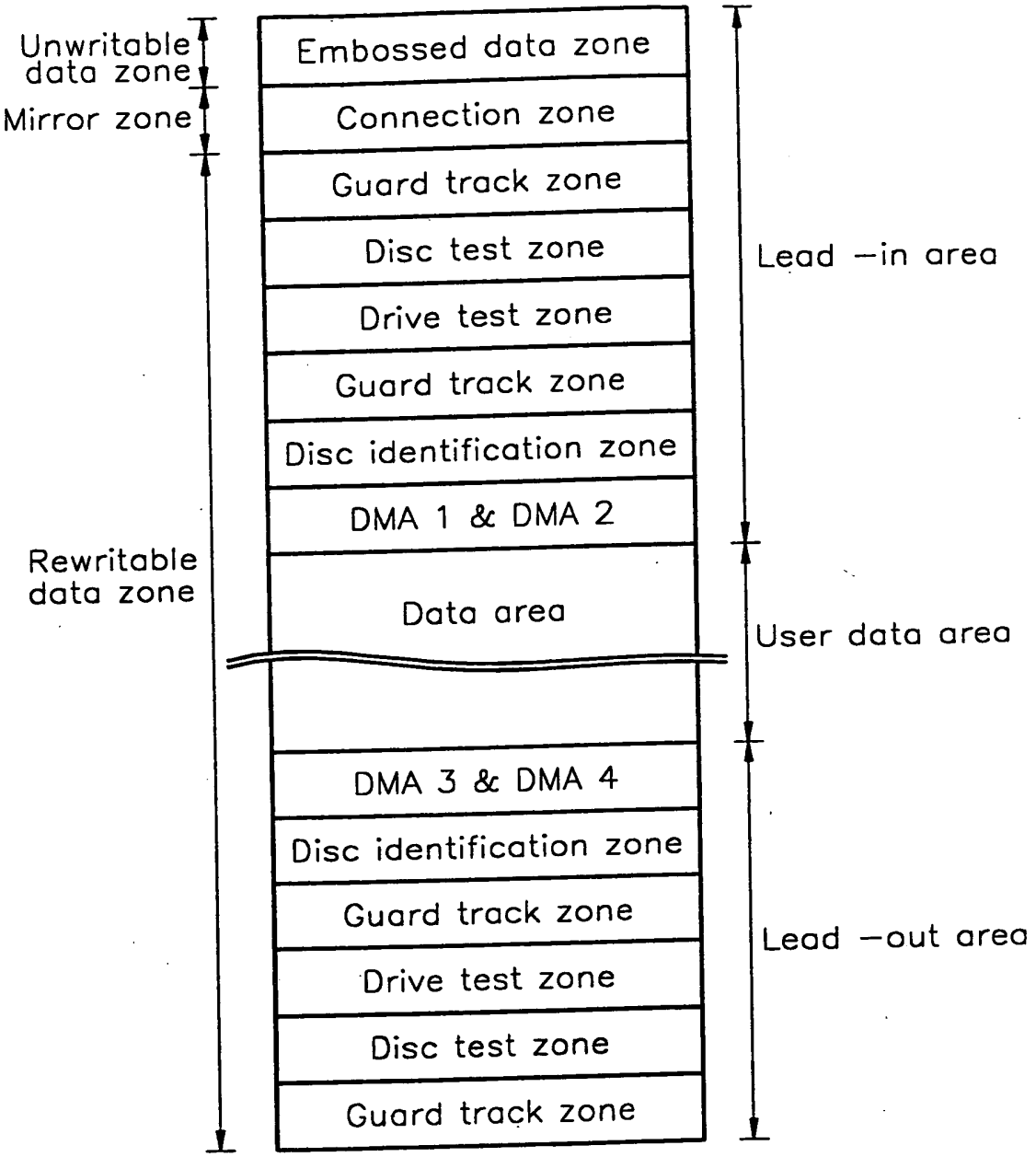
FIG. 1



Patent Application Publication

FIG. 2


Unwritable data zone
Mirror zone
Rewritable data zone
Embossed data zone
Connection zone
Guard track zone
Disc test zone
Drive test zone
Guard track zone
Disc identification zone
DMA 1 & DMA 2
Data area
DMA 3 & DMA 4
Disc identification zone
Guard track zone
Drive test zone
Disc test zone
Guard track zone
Lead -in area
User data area
Lead -out area

TOGT2T" SH602007

FIG. 3A

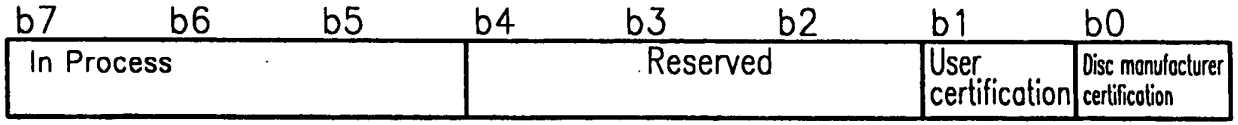


FIG. 3B

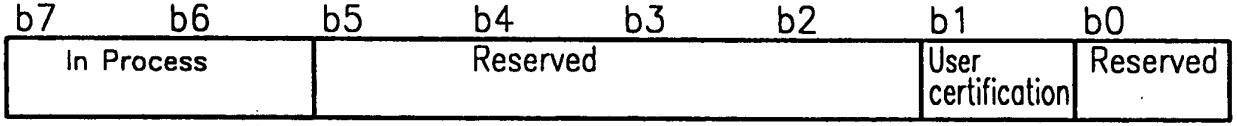


FIG. 4A

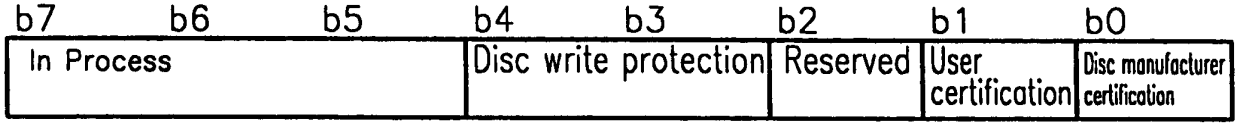


FIG. 4B

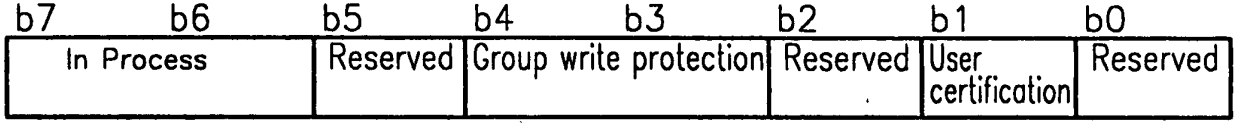


FIG. 5A

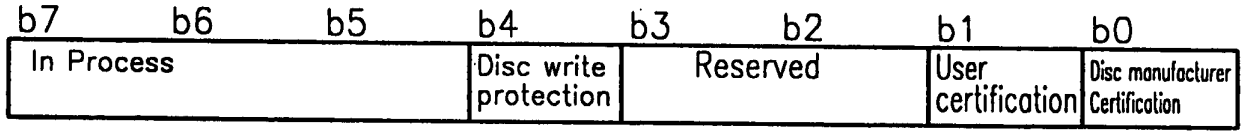

b7
b6
b5
b4
b3
b2
b1
b0
In Process
Disc write protection
Reserved
User certification
Disc manufacturer Certification

FIG. 5B

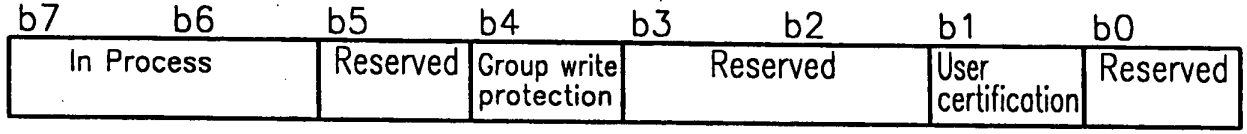

b7
b6
b5
b4
b3
b2
b1
b0
In Process
Reserved
Group write protection
Reserved
User certification
Reserved

FIG. 6A

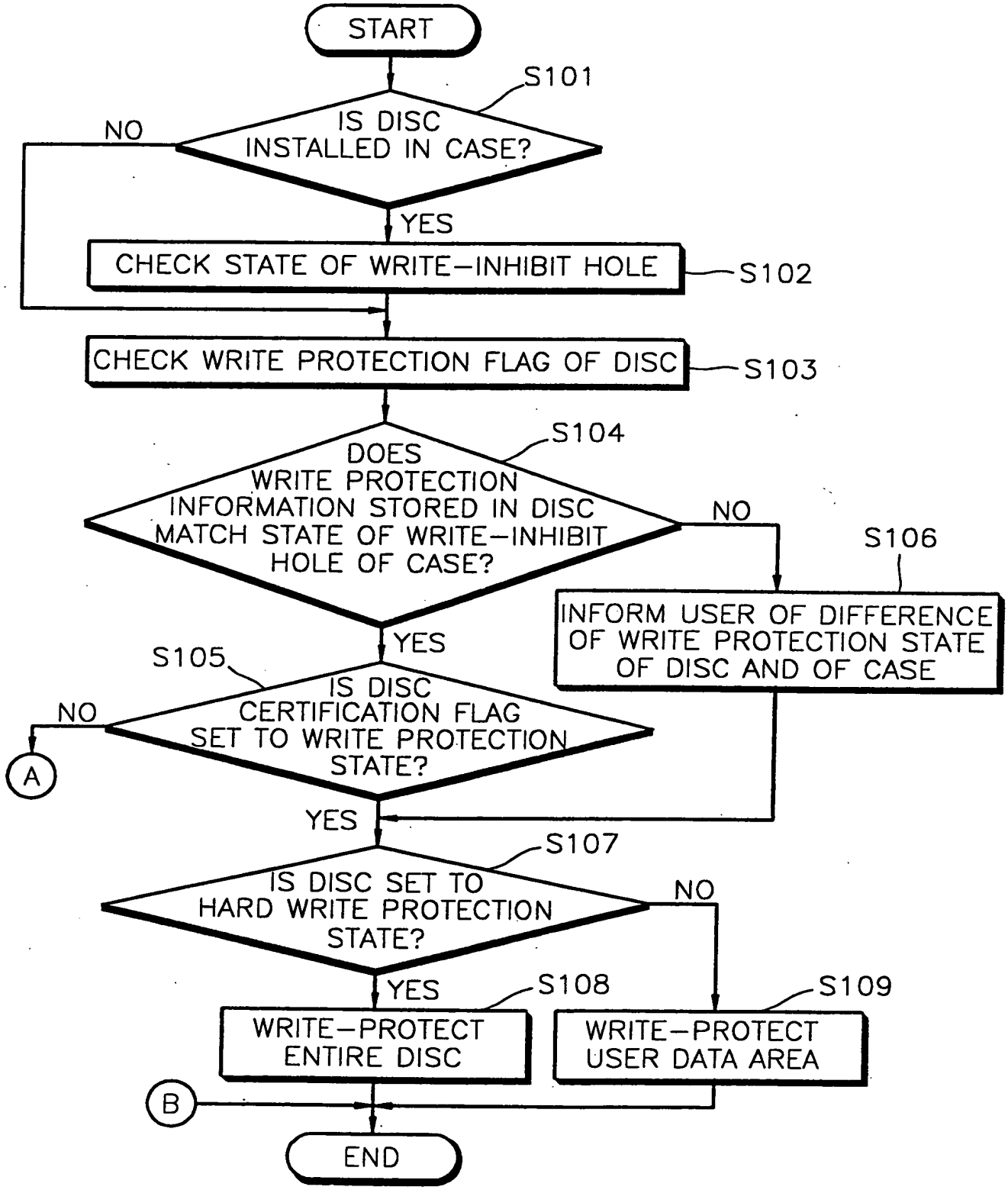
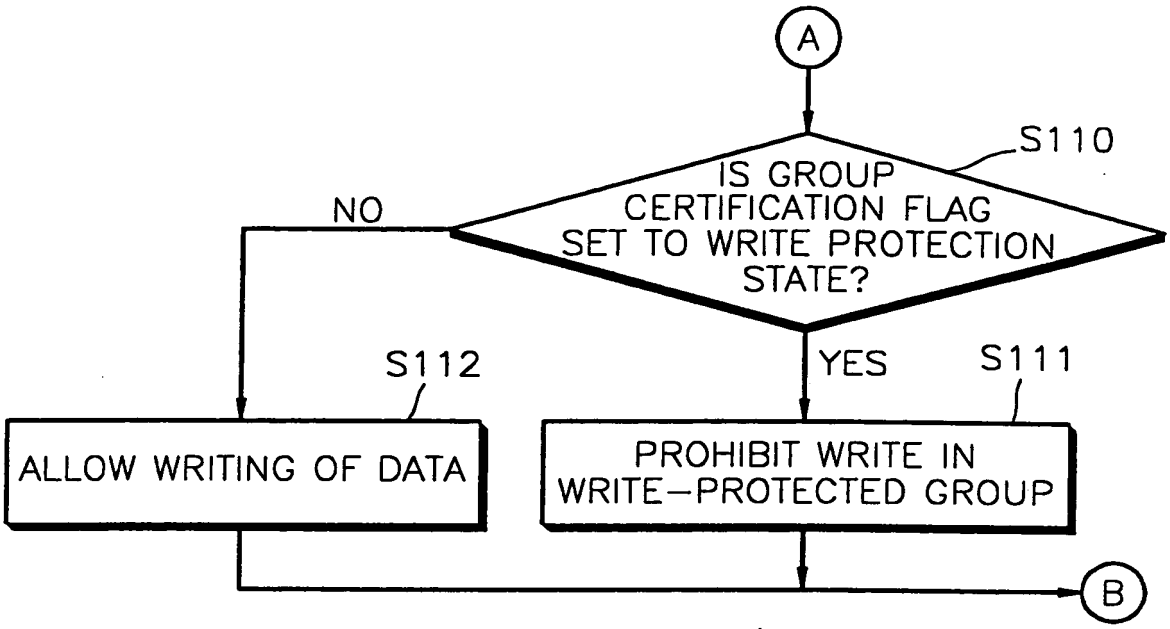

START
S101
IS DISC INSTALLED IN CASE?
NO
YES
CHECK STATE OF WRITE-INHIBIT HOLE
S102
CHECK WRITE PROTECTION FLAG OF DISC
S103
S104
DOES WRITE PROTECTION INFORMATION STORED IN DISC MATCH STATE OF WRITE-INHIBIT HOLE OF CASE?
NO
S106
INFORM USER OF DIFFERENCE OF WRITE PROTECTION STATE OF DISC AND OF CASE
YES
S105
IS DISC CERTIFICATION FLAG SET TO WRITE PROTECTION STATE?
NO
A
YES
S107
IS DISC SET TO HARD WRITE PROTECTION STATE?
NO
YES
S108
WRITE-PROTECT ENTIRE DISC
S109
WRITE-PROTECT USER DATA AREA
B
END

FIG. 6B



10/17/2004 5:46:02 PM

FIG. 7

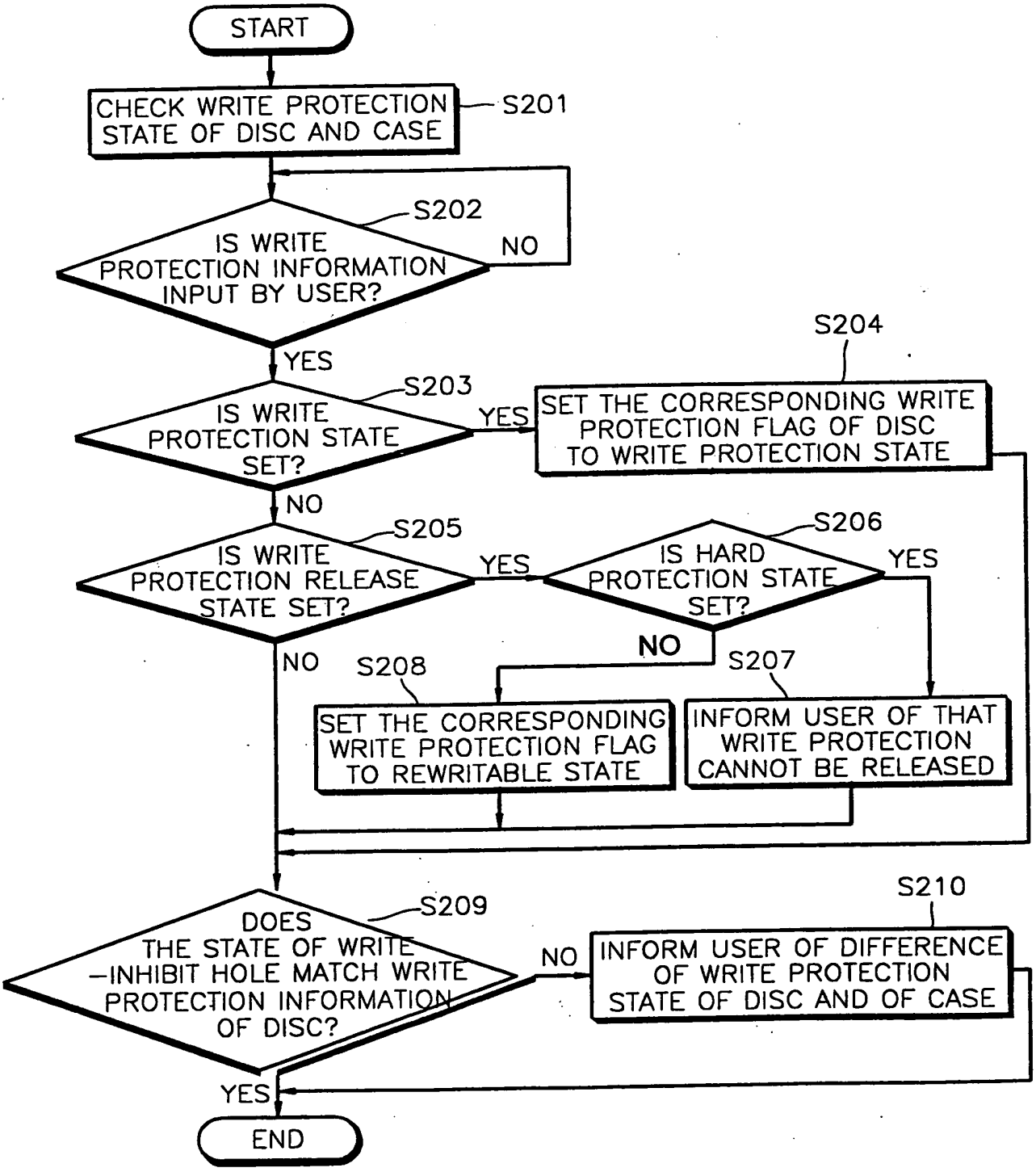

START
CHECK WRITE PROTECTION STATE OF DISC AND CASE
S201
S202
IS WRITE PROTECTION INFORMATION INPUT BY USER?
NO
YES
S203
IS WRITE PROTECTION STATE SET?
YES
S204
SET THE CORRESPONDING WRITE PROTECTION FLAG OF DISC TO WRITE PROTECTION STATE
NO
S205
IS WRITE PROTECTION RELEASE STATE SET?
YES
S206
IS HARD PROTECTION STATE SET?
YES
NO
NO
S208
SET THE CORRESPONDING WRITE PROTECTION FLAG TO REWRITABLE STATE
S207
INFORM USER OF THAT WRITE PROTECTION CANNOT BE RELEASED
S209
DOES THE STATE OF WRITE-INHIBIT HOLE MATCH WRITE PROTECTION INFORMATION OF DISC?
NO
S210
INFORM USER OF DIFFERENCE OF WRITE PROTECTION STATE OF DISC AND OF CASE
YES
END

FIG. 8

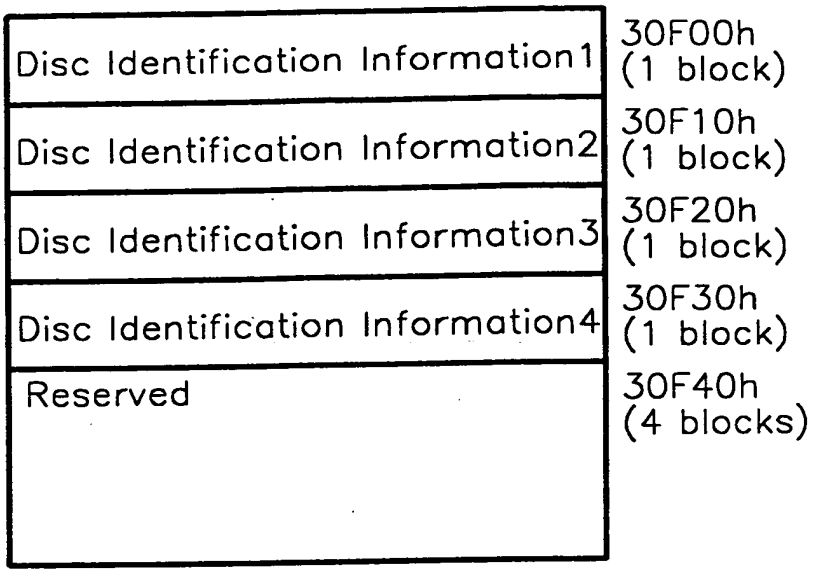

Disc Identification Information1
30F00h
(1 block)
Disc Identification Information2
30F10h
(1 block)
Disc Identification Information3
30F20h
(1 block)
Disc Identification Information4
30F30h
(1 block)
Reserved
30F40h
(4 blocks)

FIG. 9

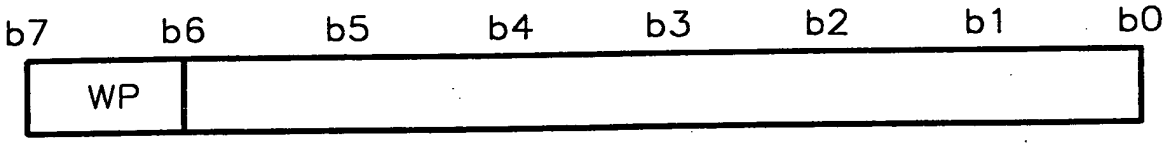

b7
b6
b5
b4
b3
b2
b1
b0
WP

FIG. 10

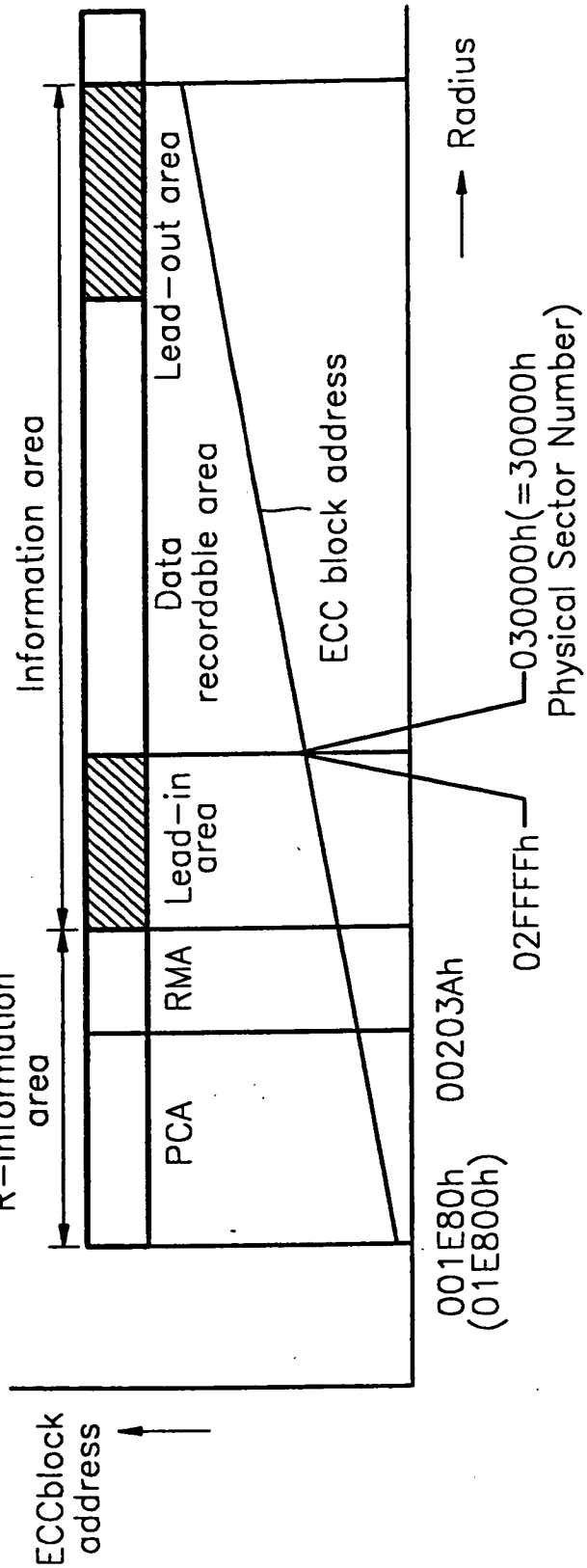

ECCblock address
R-information area
Information area
PCA
RMA
Lead-in area
Data recordable area
Lead-out area
ECC block address
Radius
001E80h (01E800h)
00203Ah
02FFFFh
030000h(=30000h Physical Sector Number)

FIG. 11

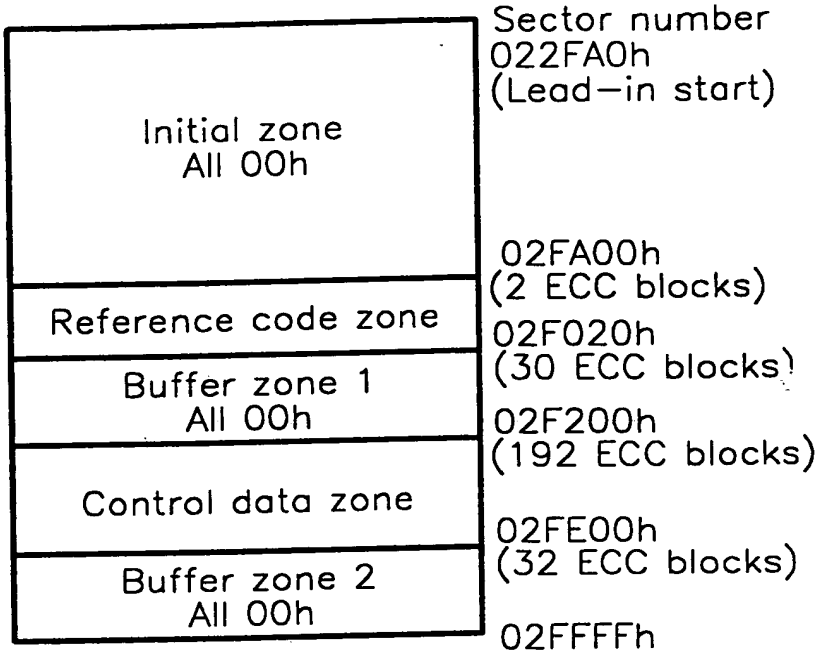

Sector number
022FA0h
(Lead-in start)
Initial zone
All 00h
02FA00h
(2 ECC blocks)
Reference code zone
02F020h
(30 ECC blocks)
Buffer zone 1
All 00h
02F200h
(192 ECC blocks)
Control data zone
02FE00h
(32 ECC blocks)
Buffer zone 2
All 00h
02FFFFh

FIG. 12

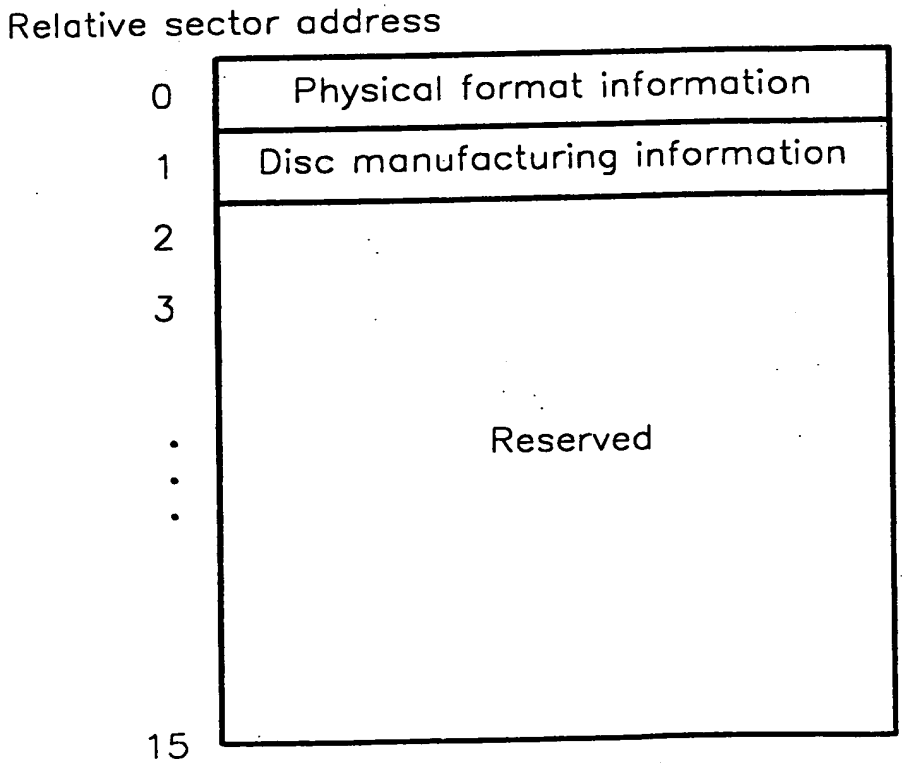

Relative sector address
0
1
2
3
15
Physical format information
Disc manufacturing information
Reserved

FIG. 13

Sector #	RMD Field	DVD-R(Ver 1.9)	DVD-RW
0		Linking-loss area	
1	0	General information of disc	
2	1	OPC related information	
3	2	User specific data	
4	3	Border zone information	
5	4	Rzone information	RZone information
6	5		Defect management & certification related information
7	6		
8	7		
9	8		
10	9		
11	10		
12	11		
13	12		
14	13	Reserved	
15	14		

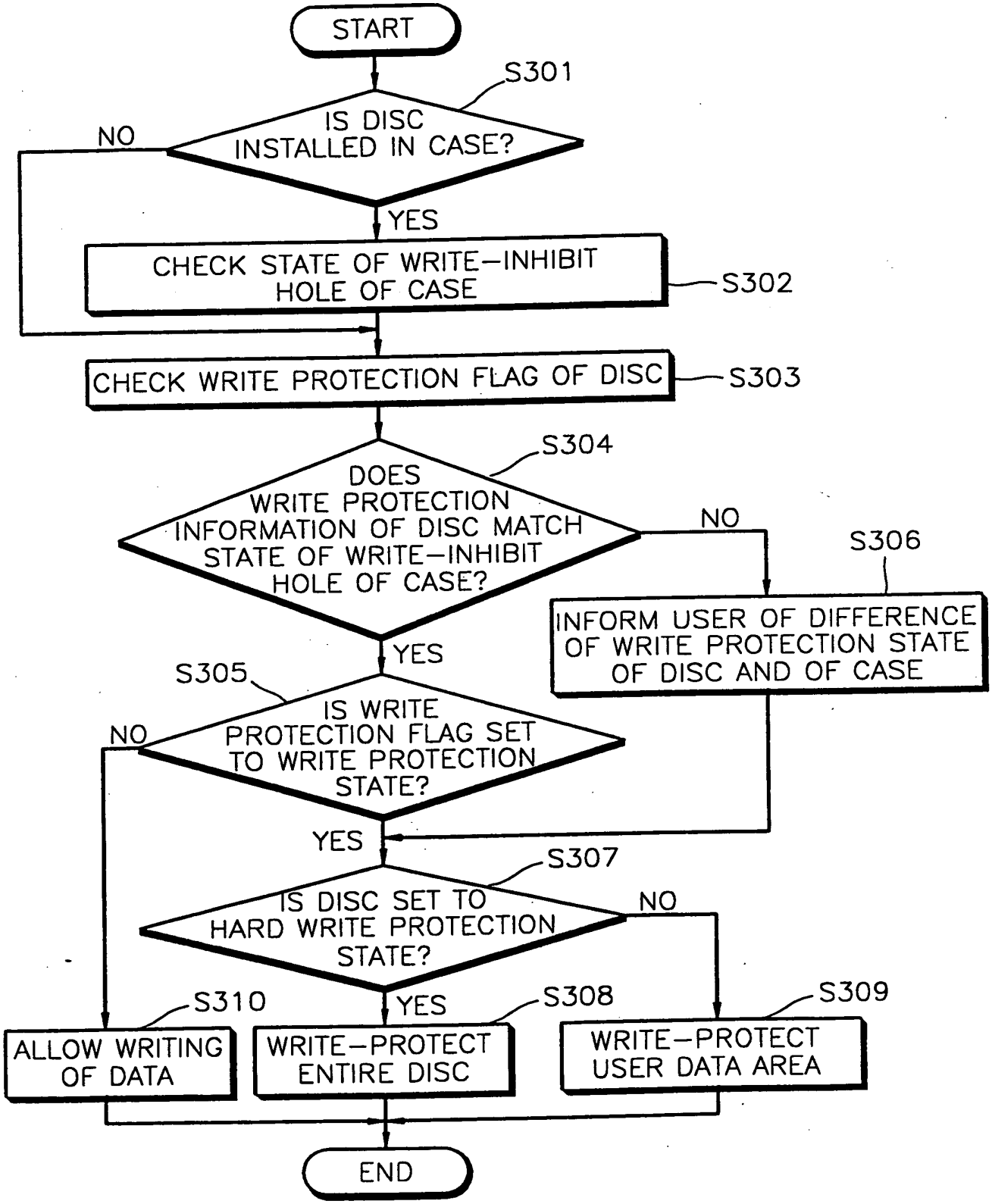
FIG. 14

BP	Contents	Number of bytes
0,1	RMD format	2
2	Disc status	1
3	Reserved	1
4 to 21	Unique disc identifier	18
22 to 85	Copy of Pre-pit Information	64
86 to 2047	Reserved	1962

FIG. 15

BP	Contents	Number of bytes
0,1	RMD format	2
2	Disc status	1
3	Write protection flag	1
4 to 21	Unique disc identifier	18
22 to 85	Copy of Pre-pit Information	64
86 to 2047	Reserved	1962

FIG. 16


START
S301
IS DISC INSTALLED IN CASE?
NO
YES
CHECK STATE OF WRITE-INHIBIT HOLE OF CASE
S302
CHECK WRITE PROTECTION FLAG OF DISC
S303
S304
DOES WRITE PROTECTION INFORMATION OF DISC MATCH STATE OF WRITE-INHIBIT HOLE OF CASE?
NO
S306
INFORM USER OF DIFFERENCE OF WRITE PROTECTION STATE OF DISC AND OF CASE
YES
S305
IS WRITE PROTECTION FLAG SET TO WRITE PROTECTION STATE?
NO
YES
S307
IS DISC SET TO HARD WRITE PROTECTION STATE?
NO
YES
S310
ALLOW WRITING OF DATA
S308
WRITE-PROTECT ENTIRE DISC
S309
WRITE-PROTECT USER DATA AREA
END